

STOCKPILE REPORT

to the Congress



JULY - DECEMBER 1961

**EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF EMERGENCY PLANNING**

WASHINGTON 25, D.C.

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OFFICE OF THE DIRECTOR

May 1962

The Honorable
The President of the Senate

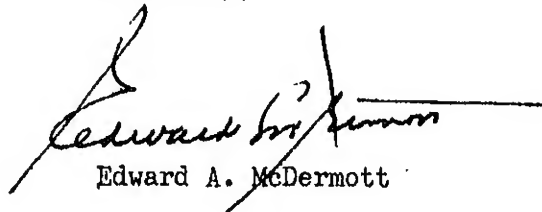
The Honorable
The Speaker of the House of Representatives

Sirs:

There is presented herewith the semiannual report to the Congress on the strategic and critical materials stockpiling program for the period July 1 to December 31, 1961. A classified statistical supplement to this report was transmitted to you earlier. The data in that supplement have since been declassified.

This report is submitted pursuant to Section 4 of the Strategic and Critical Materials Stock Piling Act, Public Law 520, 79th Congress.

Sincerely,



Edward A. McDermott

Preface

Subsequent to the end of the period which this report covers, the following data relating to strategic stockpiling were declassified by the Office of Emergency Planning:

- a. Stockpile objectives.
- b. Quantities of specification grades of materials in the strategic stockpile, for which there are stockpile objectives.

These data were released to the Senate Subcommittee on National Stockpile and Naval Petroleum Reserves in connection with the subcommittee's investigation of the stockpiling program.

The decision to declassify this information followed an extensive study of the stockpiling program by an Executive Stockpile Committee appointed by the President in February 1962. This committee was comprised of the following membership, with the Director of the Office of Emergency Planning as chairman: The Secretary of State, the Secretary of Defense, the Secretary of the Interior, the Secretary of Commerce, the Secretary of Labor, the Director of Central Intelligence, and the Administrator of General Services.

The official notice of declassification of the stockpile data, which was published in the Federal Register of April 11, 1962, is included in this report as Appendix E.

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Summary

This report covers principal activities in stockpile planning and operations for the period July 1 through December 31, 1961, under the provisions of Public Law 520 (79th Congress), The Strategic and Critical Materials Stock Piling Act.

At the end of the report period the strategic stockpile inventory of specification-grade materials for which there are stockpile objectives was valued at \$5,576,000,000 on the basis of December 31, 1961, market prices. Application of the inventory to the stockpile objectives is shown in Chart 1. Total Government inventories of the specification-grade materials were valued at \$7,426,000,000. Besides the strategic stockpile, these inventories are the Defense Production Act (DPA) inventory, the Commodity Credit Corporation account and the supplemental stockpile (acquired by barter) and a small quantity of tin in the Federal Facilities Corporation inventory. A dollar value summary of these and other inventories is shown in Appendix C.

Materials valued at approximately \$2,094,000 were delivered to the strategic stockpile between July and December, as a result of previous commitments. Of this amount, \$1,571,000 was applicable to strategic stockpile objectives in effect as of December 31, the remainder having been committed under previously higher objectives.

There were no purchase commitments for materials for the strategic stockpile during the July-December period. Materials still on order for the strategic stockpile at the end of the period were valued at \$4,774,000, with \$929,000 of this applicable to stockpile objectives.

Between July and December, cash commitments for deliveries of materials to the DPA inventory in excess of maximum objectives, were reduced by almost \$11,000,000, bringing to approximately \$407,000,000 the total contract reductions for the strategic stockpile and the DPA inventory since the beginning of fiscal year 1958 when efforts were intensified toward reducing the Government's cash commitments.

Sales commitments for disposal of off-grade and excess materials from the strategic stockpile and the DPA inventory for the six months' period totaled about \$28,744,000 with approximately \$21,145,000 of this representing disposals from the strategic stockpile and \$7,599,000 disposals from the DPA inventory. In addition, about \$8,708,000 worth of the tin remaining in the Federal Facilities Corporation inventory was sold. Sales contracts for disposal of materials from Government inventories, cumulative to December 31, 1961, have amounted to \$875,672,000, excluding approximately \$1,333,633,000 in sales of the U. S. Government's former nickel production in Cuba, sales of DPA materials to the strategic stockpile, and materials released by the President for the common defense.

On September 22, 1961, the Office of Civil and Defense Mobilization was reconstituted as the Office of Emergency Planning, in the Executive Office of the President.

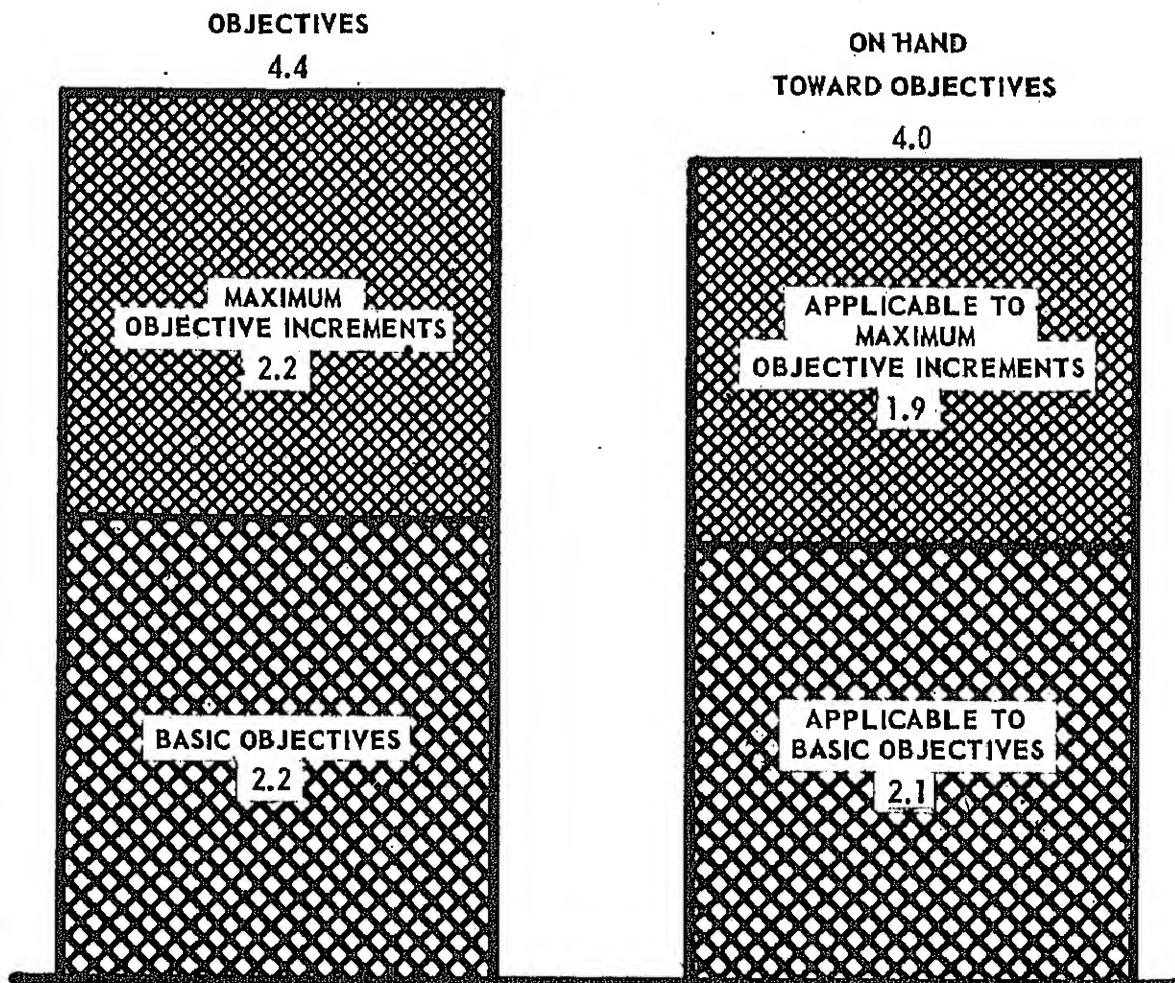
In December 1961, some of the stockpile program functions were transferred out of the Office of Emergency Planning (OEP). The responsibility for development of policies, plans and programs for storage, security and maintenance of stockpile materials was given the General Services Administrator. Responsibility for development of purchase specifications and special instructions for purchase and acceptance of stockpile materials was given the Secretary of Commerce.

CHART 1

STOCKPILE OBJECTIVES AND APPLICABLE STRATEGIC STOCKPILE INVENTORIES

AS OF DECEMBER 31, 1961

(IN BILLIONS OF DOLLARS, BASED ON DECEMBER 31, 1961, MARKET PRICES)



Excess quantities of certain specification-grade materials in the strategic stockpile, valued at \$1.6 billion, and outstanding commitments valued at \$4.8 million, are not included.

See Appendix C, item II, for other Government-owned inventories, totaling \$368 million, that are considered applicable to stockpile objectives.

Introduction

July 1961 marked the beginning of the 16th year of the strategic stockpile program provided for in the Strategic and Critical Materials Stock Piling Act of July 23, 1946 (Public Law 520, 79th Congress). This Act, which was an amendment of the Stock Piling Act passed in 1939, contained the following introduction:

"That the natural resources of the United States in certain strategic and critical materials being deficient or insufficiently developed to supply the industrial, military, and naval needs of the country for common defense, it is the policy of the Congress and the purpose and intent of this Act to provide for the acquisition and retention of stocks of these materials and to encourage the conservation and development of sources of these materials within the United States, and thereby decrease and prevent wherever possible a dangerous and costly dependence of the United States upon foreign nations for supplies of these materials in times of national emergency."

Even today, the United States is self-sufficient in resources of only three of the more than 70 materials presently on the List of Strategic and Critical Materials for Stockpiling--magnesium, molybdenum and vanadium. For the remainder it is dependent in various degrees on foreign sources, with a complete, or substantially complete, dependence for about a third of the materials. Hence the need for stockpiling against an emergency period when imports may be cut off.

The following definition of strategic and critical materials, developed by the Army and Navy Munitions Board--the first stockpile planning agency--in 1944 in the light of war experience, is still sound today:

"Strategic and critical materials are those materials required for essential uses in a war emergency, the procurement of which in adequate quantities, quality and time is sufficiently uncertain for any reason to require prior provision for the supply thereof."

Throughout the years, other feasible means of "prior provision" have been considered, and sometimes effectuated--such as expansion of production and maintenance of standby facilities--but, historically, stockpiling has been the most effective means of assuring an adequate supply against a mobilization deficit, particularly for nondeteriorative materials. Besides insufficient domestic natural resources, uncertainty about usable supplies in a war period may result from inadequate domestic processing facilities, potential curtail-

ment or destruction of foreign and domestic supply, political instability or enemy appropriation of foreign sources, and interferences with transportation.

Maximum flexibility of use of the materials in time of emergency has always been a precept of strategic stockpiling. In the early days, when mobilization planning was based on an assumption that there would be ample time for processing, most of the materials were stockpiled in their basic forms. This is still advisable for many materials. But as the concepts of a potential war have changed so has stockpile planning.

Although raw or semiprocessed strategic materials could be a key factor in recovery from a massive attack on this country, there would be little prospect of using such materials in the early stages after an attack. Therefore, more readily usable forms of several materials have been stockpiled to meet potential needs for the first six to twelve months, in the hope of circumventing some of the processing bottlenecks that could occur under the abnormal conditions of intensive mobilization. Yet, the strategic stockpile does not contain end-products that can be used directly by the ultimate consumers. Such an undertaking would magnify the cost and complexity of strategic stockpiling as well as the risk of obsolescence.

Up to June 1958, strategic stockpile objectives were established against a five-year emergency. Since that time, they have been limited to meeting estimated shortages of strategic materials for a three-year emergency. These objectives are to be adequate for meeting the needs of either limited war or general war (whichever needs are the larger) and, within the three-year emergency period, may include the essential needs of reconstruction and rehabilitation should there be a nuclear attack on the country. The limitations of the present objectives with respect to nuclear war projections are discussed later in this section.

Although the stockpile reviews take into account the supply/requirements situation for a three-year emergency, the ultimate stockpile objective may cover a shorter period, if the studies indicate that within the shorter time it should be possible to bring the supply into balance with the essential needs of the emergency. The assumptions governing these shorter period objectives may include such considerations as provision of a stockpile material in an emergency only against the time required to repair or rebuild damaged facilities or to adapt facilities to the use of an acceptable substitute material.

The following two types of objectives have been established since 1958 for all stockpile materials,

and since 1954 for metals and minerals: (a) basic objectives, which assume partial dependence during an emergency on areas beyond North America and comparably accessible areas, and (b) maximum objectives, which provide a higher degree of security by completely discounting emergency supply from distant overseas sources.

These objectives are determined after study of the estimated availability of U. S. production and imports as against the requirements for the materials in time of emergency for military, atomic energy, defense-supporting and essential civilian needs, and for essential exports of those materials for which the U. S. is the principal source of supply. Exports are a relatively small portion of requirements, as the same degree of wartime use controls is assumed for foreign countries as for the U. S., and no provision is made in stockpile computations for protection of foreign countries against their war risks.

The stockpile objectives as now computed are keyed primarily to limited-war conditions, when most domestic productive capacity would probably be available but foreign sources of supply might be interrupted. The total of the present maximum stockpile objectives would be expected to meet less than one-third of the total requirements. The proportion would vary from less than five percent for materials available from relatively dependable domestic and nearby foreign sources to one hundred percent for materials that would not be available in an emergency from those sources.

The emergence of missile and nuclear warfare techniques has become an increasingly important consideration in strategic materials planning, requiring increased attention to the state of readiness to supply needed materials in the event of an emergency, including attention to the vulnerability, or probable availability, of domestic producing facilities and of stockpiles.

It has not been possible to compute dependable stockpile objectives for a nuclear attack emergency and the postattack period of reconstruction and rehabilitation. Definitive requirements are not yet available despite much work in this direction. More reliable determination of these needs is a principal job ahead in the stockpile program. However, some of the following actions in stockpile planning are expected to assure adequate stockpiles for use in either a limited war or a general war period including reconstruction needs:

The concept of the maximum stockpile objectives—assuming cut-off of all imports except from nearby accessible sources—initiated for metals and minerals in 1954—was applied to all stockpile materials in 1958. These maximum objectives are at least equivalent to six months' usage by industry in the United States in periods of active demand.

Overconcentration of domestic materials-producing capacity has been given increased at-

tention in supply/requirements studies and in stockpile planning analyses.

Stockpiled materials have been upgraded, as necessary, to meet approximately a six months' requirement for the advanced forms.

The high-temperature and other special-property materials are reviewed at least semiannually, to keep abreast of the needs of the nuclear and space age and to assure that the emergency demand can be met either with or without stockpiling.

Stockpile storage policies have been revised on the basis of a study of the probable postattack availability of stockpiles. These policies, supported by damage probability tables, have provided guidance for the General Services Administration in evaluating the relative security of locations selected for storage of newly acquired strategic materials, in identifying unsafe locations which should receive priority consideration in relocation and in the disposal of existing inventories in excess of objectives, and in identifying sites which may be continued in use provided their security is hardened.

As is well known, there are substantial quantities of some materials in Government inventories that are in excess of or are not applicable to strategic stockpile objectives. This has come about principally for the following reasons: (a) The reduction from five to three years in the strategic stockpile planning period; (b) legislation that provided for accumulation of materials beyond the strategic stockpile objectives; (c) reductions in military requirements resulting from changed strategic concepts; (d) changes in use patterns, resulting from designing away from the use of materials that would be scarce in an emergency and from the development of new and better materials; (e) the transfer of World War II surpluses of nonspecification-grade materials to the strategic stockpile at a time when the inventories of specification grades were critically short; (f) expansion of supply, with a consequent reduction in or elimination of the need for stockpiling; (g) the state of the market, which has (1) caused producers under Defense Production Act contracts for expansion of supply to deliver materials to the Government that they could not dispose of on the market, (2) prevented the Government from disposing of any substantial quantities of many surplus materials, and (3) restricted the Government in its efforts to reduce outstanding deliveries, including some offered in lieu of dollar payments under foreign-aid-program development contracts; and (h) the desire of the Government to avoid affecting adversely the international interests of the United States or endangering the domestic economy or the mobilization base by the disposal of materials.

Disposal of surpluses from the strategic stockpile and the Defense Production Act inventory as of December 31, 1961, amounted to about

\$876,000,000, exclusive of sales of materials released by the President for the common defense, sales of DPA materials to the strategic stockpile and sales of the U. S. Government's former nickel production in Cuba. Most of the amount represents sales to industry. However, Government agencies that directly use strategic materials are required to fulfill their requirements insofar as possible from excess Government inventories, and efforts have been increased toward providing for the use of excess materials in lieu of cash in foreign aid programs, when this is consistent with overall disposal policies and with the best interests of the Government.

Except when the materials are obsolescent within the definition in the Strategic and Critical Materials Stock Piling Act, the express approval of the Congress is required for disposals from the strategic stockpile. Moreover, unless the provision is waived by the Congress, the disposals cannot begin until six months after notice to the Congress and publication in the Federal Register.

Transfer of Stockpile Functions.--In December 1961, some of the functions in connection with the

strategic stockpile program were transferred out of the Executive Office of the President.

As part of the reduction of the Office of Emergency Planning Washington staff, in accordance with the FY 1962 Appropriation Act, the following functions were transferred by the Director of OEP:

- a. To the Administrator of General Services, the development of policies, plans, and programs for the storage, security; and maintenance of stockpiled materials.
- b. To the Secretary of Commerce, the development of purchase specifications and special instructions for purchase and acceptance of materials for the strategic stockpile.

The final responsibility for approval was retained by the Director of OEP. The specialists who had performed these functions in OEP were also transferred to the General Services Administration and the Department of Commerce, respectively. Up to this time, these functions had been carried out by the policy and planning agency.

Status of Strategic Stockpile Inventories

MATERIALS FOR WHICH THERE ARE STOCKPILE OBJECTIVES

Total specification-grade inventories of materials in the strategic stockpile for which there are basic and maximum objectives, at the end of the report period were valued at \$5,576,000,000 on the basis of December 31 market prices, compared with an acquisition cost of \$5,783,000,000 and a June 30, 1961, market valuation of \$5,678,000,000. Excess specification-grade inventories for some of the materials in the strategic stockpile, representing quantities that were acquired against previously higher objectives, are now valued at \$1,611,000,000 as against \$1,639,000,000 shown on June 30. The greater part of the change in market values is due to decreased prices for aluminum, rubber, tungsten and lead.

Table A, following, shows the List of Strategic and Critical Materials for Stockpiling and whether or not the stockpile objectives had been achieved as of December 31, 1961.

TABLE A
List of Strategic and Critical Materials for Stockpiling and Achievement of Stockpile Objectives

| Materials | Strategic stockpile inventory equals or exceeds-- | |
|--|---|-----------------------------------|
| | Basic objective | Maximum objective |
| 1. Aluminum..... | x | (¹) |
| 2. Aluminum Oxide, Fused, Crude..... | x | x |
| 3. Antimony..... | (¹) | |
| 4. Asbestos, Amosite..... | (²) | (²) |
| 5. Asbestos, Chrysotile.... | | |
| 6. Bauxite, Metal Grade, Jamaica Type..... | (¹) | (¹) |
| 7. Bauxite, Metal Grade, Surinam Type..... | x | (¹) |
| 8. Bauxite, Refractory Grade..... | x | x |
| 9. Beryl..... | x | x |
| 10. Bismuth..... | (¹) | (²) |
| 11. Cadmium..... | x | x |
| 12. Castor Oil..... | x | (³) x |
| 13. Celestite..... | | |
| 14. Chromite, Chemical Grade..... | x | x |
| 15. Chromite, Metallurgical Grade..... | x | x |
| 16. Chromite, Refractory Grade..... | x | |
| 17. Cobalt..... | x | x |
| 18. Columbium..... | x | (³) x |
| 19. Copper..... | x | (³) x |
| 20. Cordage Fibers, Abaca... | x | x |
| 21. Cordage Fibers, Sisal... | x | x |
| 22. Corundum..... | x | x |
| 23. Diamond Dies, Small.... | (²) | (²) |
| 24. Diamond, Industrial: Crushing Bort..... | x | x |
| 25. Diamond, Industrial: Stones..... | x | (¹) |
| 26. Feathers and Down, Waterfowl..... | x | x |
| 27. Fluorspar, Acid Grade... | x | x |
| 28. Fluorspar, Metallurgical Grade..... | x | x |
| 29. Graphite, Natural--Ceylon, Amorphous Lump.... | x | x |
| 30. Graphite, Natural--Madagascar, Crystalline... | x | x |
| 31. Graphite, Natural--Other than Ceylon and Madagascar, Crystalline.... | x | x |
| 32. Hyoscine..... | x | x |
| 33. Iodine..... | x | |
| 34. Jewel Bearings..... | | |
| 35. Kyanite-Mullite..... | x | x |
| 36. Lead..... | x | x |
| 37. Magnesium..... | x | x |
| 38. Manganese, Battery Grade, Natural Ore..... | x | x |
| 39. Manganese, Battery Grade, Synthetic Dioxide..... | x | x |
| 40. Manganese, Chemical Grade, Type A Ore..... | x | x |
| 41. Manganese, Chemical Grade, Type B Ore..... | (¹) | (¹) |
| 42. Manganese, Metallurgical Grade..... | x | (¹) (³) |
| 43. Mercury..... | x | x |
| 44. Mica, Muscovite Block, Stained A/B and Better | x | (¹) |
| 45. Mica, Muscovite Film, First and Second Qualities..... | x | (¹) |
| 46. Mica, Muscovite Splittings..... | x | x |
| 47. Mica, Phlogopite Block.. | x | x |
| 48. Mica, Phlogopite Splittings..... | x | x |
| 49. Molybdenum..... | x | (³) x |
| 50. Nickel..... | x | x |
| 51. Opium..... | x | x |
| 52. Platinum Group Metals, Iridium..... | x | x |
| 53. Platinum Group Metals, Palladium..... | (¹) | (¹) |

| Materials | Strategic stockpile inventory equals or exceeds-- | |
|--|---|-----------------------------------|
| | Basic objective | Maximum objective |
| 54. Platinum Group Metals, Platinum..... | x | x |
| 55. Pyrethrum..... | x | x |
| 56. Quartz Crystals..... | x | x |
| 57. Quinidine..... | x | x |
| 58. Rare Earths..... | x | x |
| 59. Rubber, Crude Natural... | x | x |
| 60. Rutile..... | x | (¹) |
| 61. Sapphire and Ruby..... | (¹) | |
| 62. Selenium..... | (¹) | |
| 63. Shellac..... | x | x |
| 64. Silicon Carbide, Crude.. | (¹) | (¹) |
| 65. Silk Noils..... | x | x |
| 66. Silk, Raw..... | (²) | (²) |
| 67. Sperm Oil..... | x | x |
| 68. Talc, Steatite, Block and Lump..... | x | x |
| 69. Tantalum..... | x | (¹) (³) |
| 70. Tin..... | x | x |
| 71. Tungsten..... | x | (³) x |
| 72. Vanadium..... | x | x |
| 73. Vegetable Tannin Extract, Chestnut..... | x | x |
| 74. Vegetable Tannin Extract, Quebracho..... | x | x |
| 75. Vegetable Tannin Extract, Wattle..... | x | x |
| 76. Zinc..... | x | x |

¹Sufficient quantities are on hand in total Government-owned inventories to complete the objective.

²Total quantities on hand in and on order for all Government-owned inventories are sufficient to complete the objective.

³Although total quantities are equal to the maximum objective, the upgrading program has not been completed.

Nonspecification Grades

Most of the nonspecification-grade stocks, shown in Table B, following, were acquired by transfer of Government-owned surplus materials. Some, however, were taken under stockpile specifications now outmoded for such reasons as changes in industry practice and technological advances. Others were taken with a view to processing them to specification grades if this were necessary in order to meet emergency demands. Disposal action for many of these items has been authorized by the Office of Emergency Planning. Some changes in the quantities since the last report reflect the sale of the materials. Other changes are due to reclassification and other adjustments of the inventories. Sales commitments between July and

December are shown in the section, "Notes on Strategic and Critical Materials."

TABLE B
Strategic Stockpile Inventories of Nonspecification Grades of Materials for Which There are Stockpile Objectives

As of December 31, 1961

| Material | Unit | Quantity |
|---|--------|------------|
| Aluminum..... | ST | 1,787 |
| Bauxite, Metal Grade, Surinam Type..... | LDT | 24 |
| Bismuth..... | Lb. | 36,580 |
| Cadmium..... | Lb. | 1,272,398 |
| Celestite..... | SDT | 28,816 |
| Chromite, Metallurgical Grade.. | SDT | 177 |
| Columbium..... | Lb. | 1,362,318 |
| Diamond Dies, Small..... | Pc. | 8,371 |
| Fluorspar, Acid Grade..... | SDT | 4,960 |
| Graphite, Natural--Madagascar, Crystalline..... | ST | 1,907 |
| Graphite, Natural--Other than Ceylon and Madagascar, Crystalline..... | ST | 672 |
| Jewel Bearings..... | Pc. | 14,715,973 |
| Magnesium..... | ST | 4,093 |
| Manganese, Metallurgical Grade | SDT | 623,670 |
| Mica, Muscovite Block, Stained A/B and Better..... | Lb. | 347,600 |
| Mica, Muscovite Film, 1st and 2d Qualities..... | Lb. | 23,674 |
| Mica, Phlogopite Block..... | Lb. | 206,490 |
| Nickel..... | Lb. | 1,359,932 |
| Opium..... | Lb. | 2,180 |
| Platinum Group Metals, Platinum | Tr.Oz. | 3,344 |
| Quartz Crystals..... | Lb. | 897,310 |
| Sapphire and Ruby..... | Kt. | 1,763,270 |
| Talc, Stentite, Block and Lump | ST | 42 |
| Tantalum..... | Lb. | 1,857,394 |
| Tungsten..... | Lb. | 16,198,192 |
| Vanadium..... | Lb. | 233,383 |

Source of data: General Services Administration.

MATERIALS WITHOUT STOCKPILE OBJECTIVES

The strategic stockpile contains some materials for which there are no stockpile objectives at the present time. These materials are listed in Table C, following. Some of the materials formerly had objectives but were removed from the stockpile list when it was clear that there would not be a deficit between the supply and the requirements in time of national emergency. Others were transferred as surplus property after World War II.

Disposal of most of these items has been under way for some time, as indicated in the section, "Notes on Strategic and Critical Materials."

TABLE C
*Strategic Stockpile Inventories of Materials
Without Stockpile Objectives*

As of December 31, 1961

| Material | Unit | Quantity |
|--|------|-------------|
| Agar..... | Lb. | 13,293 |
| Asbestos, Crocidolite (Soft)... | ST | 1,567 |
| Bristles, Hog..... | Lb. | 8,217 |
| Coconut Oil..... | Lb. | 184,255,668 |
| Cotton, Extra Long Staple..... | Bale | 219,230 |
| Diamond Dies, Other Than Small | Pc. | 355 |
| Diamond Tools..... | Pc. | 64,178 |
| Mica, Muscovite Block, Stained B and Lower..... | Lb. | 4,641,641 |
| Mica, Muscovite Film, 3d Quality..... | Lb. | 513,381 |

| Material | Unit | Quantity |
|--------------------------------|--------|------------|
| Palm Oil..... | Lb. | 34,208,780 |
| Platinum Group Metals, Rhodium | Tr.Oz. | 2,047 |
| Poppy Seeds, Opium..... | Lb. | 1,586 |
| Quartz, Processed..... | Pc. | 6,288,087 |
| Quinine..... | Oz. | 9,524,947 |
| Quinine, Hydrochloride of..... | Oz. | 1,474 |
| Silk Waste..... | Lb. | 2,188,406 |
| Talc, Steatite, Ground..... | ST | 4,644 |
| Totaquine..... | Oz. | 7,654,416 |
| Zirconium Ore, Baddeleyite.... | SDT | 16,533 |
| Zirconium Ore, Zircon..... | SDT | 11,222 |

Source of data: General Services Administra-
tion.

Activities for the Period July-December 1961

PROCUREMENT

The Strategic Stockpile Procurement Directive for Fiscal Year 1962 was issued, providing for new acquisitions of jewel bearings from the plant at Rolla, North Dakota, and chrysotile asbestos from domestic production if possible. In addition, upgrading of some stockpiled materials was authorized. GSA proposals on the upgrading have provided for payment in kind for the processing costs rather than payment in cash. No new commitments for purchase of materials for the strategic stockpile were executed, however, during the period from July through December.

During the July-December period, the Department of Agriculture negotiated 17 barter contracts for strategic materials valued at approximately \$44,700,000. At the end of the period, strategic materials in the CCC account and the supplemental stockpile, acquired by barter of surplus agricultural commodities, were valued at about \$1,070,000,000 on the basis of December 31 market prices. Of this amount, about \$211,000,000 was considered applicable to stockpile objectives although the materials were not transferred to the strategic stockpile.

The market value of outstanding deliveries for the strategic stockpile was estimated on December 31, at \$4,774,000, compared to the \$4,619,000 value shown as of June 30, 1961. Only \$929,000 of the materials on order are applicable to present stockpile objectives. The additional outstanding deliveries of \$3,844,200, which are principally from foreign aid programs, were committed when the stockpile objectives were higher. The increase in market value over the June 30 figure is a result of increased market prices for the materials still on order.

Of the \$2,094,000 in materials delivered to the strategic stockpile during the six months' period, \$1,571,000 was applicable to stockpile objectives. The excess deliveries of approximately \$523,000, comprised of \$86,000 from open market purchases and \$437,000 from foreign aid programs, were the result of commitments made against stockpile objectives that were later reduced.

PURCHASE SPECIFICATIONS AND SPECIAL INSTRUCTIONS

During the period, the Office of Emergency Planning issued three new and two revised purchase specifications. (See Appendix B.) In addition, four new and three revised special instructions were issued to the General Services Admin-

istration, giving guidance on the stockpiling of strategic and critical materials.

REDUCTION OF COMMITMENTS

Government cash commitments for delivery of materials that would be surplus to maximum stockpile objectives were reduced by almost \$11,000,000 during the six months' period ending December 31. The entire amount represented reductions in Defense Production Act contracts involving cobalt, copper and nickel.

Total reductions for the strategic stockpile and the DPA inventory, from July 1957 to December 31, 1961, amounted to approximately \$407,000,000. Of this amount, approximately \$57,877,000 has been for strategic stockpile commitments and \$349,000,000 for DPA commitments.

DISPOSAL PROGRAMS

Notices of 10 plans for disposal of materials from the strategic stockpile, listed below, were published in the Federal Register within the period of this report. Seven of the 10 plans require express Congressional approval, and three require only a six months' waiting period prior to disposal as the materials are considered obsolete within the terms of the Stock Piling Act.

Require Express Congressional Approval

1. Castor oil
2. Chromite, metallurgical
3. Cobalt carbonate and oxide
4. Ferromanganese and electrolytic manganese metal
5. Ferrovandium
6. Platinum scrap and nonferrous scrap (brass, silicon bronze and copper, beryllium-copper and zinc foil)
7. Tin

Require Only Six Months' Waiting Period

1. Ferromanganese, fines
2. Magnesium oxides and carbonates
3. Shellac

Also published were several press notices of intent to dispose of small quantities of the tin remaining in the Federal Facilities Corporation inventory since the sale of the Government-owned tin smelter. On October 18, a second press notice was released on the availability for disposal of 18,700 long tons of columbium-bearing tin slags from the DPA inventory.

Other disposal plans still awaiting express Congressional approval as of December 31, 1961, were:

1. Celestite
2. Cordage fibers--abaca and sisal
3. Cotton, extra long staple
4. Nickel ingots, sintered nickel powder and cobalt rondelles
5. Silk noils
6. Vegetable tannins--chestnut, quebracho and wattle

Sales commitments during the six months' period for disposal of excess and off-grade materials from the strategic stockpile and the DPA inventory totaled approximately \$28,744,000 (exclusive of the sale of nickel, amounting to \$10,750,000 from the U. S. Government's former plant operations in Cuba). Of this amount, about \$21,145,000 represented disposals from the stockpile and about \$7,599,000 from the DPA inventory. In addition, about \$8,708,000 was recovered from the sale of tin from the Federal Facilities Corporation inventory. The materials disposed of during the period from the strategic stockpile and the DPA inventory were:

| | |
|----------------------------------|-----------------|
| Agar | Nickel |
| Alumina | Palm oil |
| Chromite | Quartz crystals |
| Coconut oil | Rhodium |
| Copper | Rubber |
| Feathers and down | Silk waste |
| Ferrochrome alloys | Talc |
| Graphite | Totaquine |
| Hyoscine | Zircon |
| Magnesium scrap | concentrates |
| Manganese sulphate and carbonate | |

Cumulative sales of excess and off-grade materials from the strategic stockpile and the DPA inventory as of December 31 totaled \$875,672,000, exclusive of approximately \$1,333,633,000 in sales of materials released by the President for the common defense, sales of DPA materials to the strategic stockpile and sales of the U. S. Government's former nickel production in Cuba. About one-fourth of this amount is made up of sales of 12 materials, with recoveries ranging from better than \$1,000,000 to \$103,000,000--the major ones being rubber, nickel, hog bristles, coconut oil and copper.

STOCKPILE STORAGE

Stockpile Security

A study was completed of the probable availability of stockpile materials following massive nuclear weapon attack on the continental United States. A new method of estimating the survival probabilities was used, based on electronic computer data developed by the National Resource Evaluation Center.

The preliminary statistical study disclosed a possible need to provide additional security by (1) relocating some of the inventories of 15 destructible-type materials or, alternatively, (2) increas-

ing the physical protection of the materials at the locations at which they are stored. To be sure that unnecessary expenses are avoided, several studies were made, among them the following: (1) In special tests by the Naval Material Laboratory, one material was exposed to the simulated thermal effects of a large weapon. This test disclosed a high resistance to loss, except for possible superficial damage not affecting emergency utilization of the commodity. The subsequent recomputation of the probable postattack availability, using the new vulnerability factor developed by research, disclosed that a sufficient quantity would be available from the stockpile to meet estimated requirements. (2) The probable availability of another material was reexamined and compared with population, domestic supply, and demand factors. A substantial increase in the estimated population survival ratio, based on the program to provide shelters, was included in the evaluation to make sure that the long-range aspects of providing stockpile security were adequately considered. The study indicated an adequate net availability of the stockpile inventory of the material at this time. The studies showed that a few small-tonnage materials need to be relocated to safer geographical areas. Funds for this activity have been included in the Fiscal Year 1963 appropriation request.

The so-called nondestructible metals and minerals in the stockpile are relatively secure. These generally large-volume materials can be positioned close to possible target centers without fear of destruction by nuclear thermal effects. High blast pressures are likely to result only in such reactions as toppling of metal stacks with some scattering of ingots, and cropping or dislodging of the tops of ore piles.

Criteria for wider dispersal of small-tonnage nondestructibles have been adopted under revised policies, principally to offset total denial of materials during periods of interdiction from heavy fallout. The continuing acquisition of strategic metals and minerals under the barter provisions of the Agricultural Trade Development and Assistance Act of 1954, as amended, is providing a means of advancing the strategic security of the stockpile ahead of the expanding perimeters of possible attack damage for such materials.

The estimated availability of destructible-type stockpile materials, however, continues to decrease as the computed attack damage increases. It is foreseeable that the discharge of responsibilities to insure the postattack availability of some stockpile materials will require higher custodial expenditures as measures increasing probable postattack demand (such as population shelters and industrial plant protection and dispersal) become more effective.

Storage Arrangements and Activity

Strategic and critical materials were stored at 209 locations on December 31, as follows:

| <u>Type of facility</u> | <u>Number of Locations</u> | <u>Net change July-December</u> |
|--------------------------------------|--------------------------------|-------------------------------------|
| Military depots..... | 58 | 0 |
| GSA depots..... | 21 | -1 |
| Other Government-owned sites..... | 10 | 0 |
| Industrial plantsites | 39 | 0 |
| Leased commercial sites... | 15 | -1 |
| Commercial warehouses..... | 66 | -2 |
| Port storage sites..... | 0 | 0 |
| | <u>209</u> | <u>-4</u> |

As of December 31, about 47,500,000 tons of materials were stored at the above-listed facilities, 1,600,000 tons of which were received during the six months' reporting period. Of the new receipts only about one percent went into the strategic stockpile, 95 percent was for the Commodity

Credit Corporation's account, and about four percent was for the DPA inventory.

Approximately 1,500 inspections were made of stockpiled materials. In preservation and maintenance of the stockpiles, 103 new projects were initiated and 152 previously authorized were completed. Included in these activities were preparation of open area storage sites, repairs and improvements of warehouse facilities, security protection measures, repackaging from substandard containers into specification containers, protective coverings on ore piles, marking and identification of materials, and reconditioning of existing containers.

The transfer of an entire inventory of materials from a GSA depot to an Army facility in the same area, effected during the period, is expected to result in a saving of about \$100,000 a year in recurring storage costs.

Notes on Strategic and Critical Materials

AGAR

Disposal of the approximately 13,000 pounds of agar remaining in the stockpile was committed during July-December, to be sold for about \$8,000.

ALUMINA

The disposal of calcined alumina from the stockpile was completed with the sale of 1,462 short tons during the report period, for more than \$65,000.

ALUMINUM

Between July and December, 21,087 short tons of primary aluminum was delivered to the Government under the one contract that remains open for this metal under the Defense Production Act expansion program.

ASBESTOS

Arizona chrysotile asbestos was delivered under two GSA contracts. These two contracts were extended to April 25, 1962, and the two companies expect to complete their contracts by that date. The asbestos delivered is now being performance-tested by an industrial consumer. A third contractor who did not tender materials of acceptable quality did not request extension of his contract beyond December 31, 1961.

BAUXITE

Upon determination that there was no commercial market or other use for the 24 short tons of bauxite residues available for disposal from the stockpile, plans were initiated for the abandonment of the material.

BERYL

The Department of the Interior continued its extensive research programs on beryllium from ore discovery through studies on mineral dressing and refinement, purification, and fabrication of the metal. Bertrandite-phenacite from Mt. Wheeler, Nevada, containing 0.49 percent beryllium oxide (BeO) was upgraded by batch-scale flotation tests to a concentrate containing 14 percent BeO at an 82 percent recovery. The method also was effective on ore from the Lake George, Colorado, area. In somewhat larger tests, phenacite from the Mt. Wheeler area containing 5 percent BeO was concentrated to a product containing 34 percent BeO with an 85 percent recovery. Promising flotation procedures also were under development

for recovering beryl from North Carolina pegmatites which contain an estimated 41,000 tons of beryllium in a 0.4 percent beryl ore.

Under the Domestic Beryl Purchase Program, 122 short tons of beryl was purchased between July and December, making a total of 3,030 tons in purchases toward the 4,500 tons allowed by the termination date of June 30, 1962. Total purchases are not expected to reach the maximum tonnage established in the program.

CASTOR OIL

The Department of Agriculture, which has continued its production research program on castor beans, issued the following publications: "A Study of Castor Bean Harvester Field Losses," and "A Castor Bean Plot Harvester." A third publication, "Mechanization of Castor Bean Harvesting," will soon be issued.

Notice was published in the Federal Register on September 13, 1961, of the intent to dispose of 155,676,000 pounds of castor oil, subject to the express approval of the Congress.

CHROMITE

Of the 91,450 long tons of nonspecification-grade metallurgical chromite available for sale from the stockpile, 36,900 tons was sold during the report period for \$178,000. The entire quantity of ferrochrome alloys, 145,126 pounds, authorized for disposal from the stockpile, was sold during July-December for \$6,500.

A notice of proposed disposal of 1,890 long tons of metallurgical chromite from the stockpile was published in the Federal Register on October 18, 1961. Express approval of the Congress is required.

COBALT

On September 26, 1961, notice of the proposed disposal of 5,500 pounds of cobalt carbonate and 265,000 pounds of cobalt oxide was published in the Federal Register. This disposal requires the express approval of the Congress.

COCONUT OIL

From July through December 1961, a total of 40,986,587 pounds of coconut oil was sold from the stockpile, for about \$4,461,000, leaving approximately 138,641,000 pounds which will be offered for sale at the rate of 10,000,000 to 14,000,000 pounds every six weeks. Coconut oil was removed

from the List of Strategic and Critical Materials for Stockpiling in April 1959.

COPPER

From the DPA inventory, 525 short tons of surplus copper valued at \$321,300 was released for Government use.

CORDAGE FIBERS

Approximately 7,686,000 pounds of abaca, with a contract value of about \$1,708,000, and 30,041,000 pounds of sisal, with a value of over \$3,000,000, were rotated during the July-December period.

FEATHERS AND DOWN

Between July and December sales commitments valued at about \$3,223,000 were made for the disposal of 1,519,377 pounds of surplus waterfowl feathers and down from the stockpile. Out of the 3,930,000 pounds authorized for disposal, 3,305,812 pounds have now been sold. Sales to industry accounted for 544,625 pounds of the quantity disposed of, and 2,761,187 pounds have been transferred for Government use.

GRAPHITE

Of the 2,647 short tons of graphite authorized for disposal from the stockpile, 61 short tons was disposed of during this period. Sealed bids will be invited shortly for 1,914 short tons.

HYOSCINE

During the report period, 1,680 ounces of hyoscine was sold from the stockpile, for approximately \$18,000, leaving 1,838 ounces still authorized for disposal which will be offered for sale in late May 1962.

JEWEL BEARINGS

General Services Administration continued to purchase jewel bearings for the stockpile from the Government-owned, privately operated production facility at Rolla, North Dakota. The non-Government Committee, appointed by the Director of the Office of Civil and Defense Mobilization in March 1961 to make an intensive review of the Government's jewel bearings program, submitted its report in November 1961. The Committee's recommendations were still under review at the end of December 1961.

MAGNESIUM

During this report period, 1,076 short tons of magnesium scrap was sold from the stockpile, for about \$543,000, leaving 1,548 tons which will be offered for sale at the rate of 550 short tons every six weeks.

MANGANESE

Notice of the proposed disposal of 1,106 short tons of ferromanganese fines from the stockpile

was published in the Federal Register on November 29, 1961. Also published, on December 5, 1961, was notice of proposed disposal of 63 short tons of ferromanganese and 42 short tons of electrolytic metal, for which the express approval of the Congress is required. From the DPA inventory, 14 short tons of manganese sulphate and carbonate were disposed of, for \$168. All of this manganese was nonspecification-grade.

MICA

Defense Production Act funds are no longer being used for synthetic mica research. However, the Bureau of Mines will continue its work in this program independently, and industry plans to carry out the commercial development of synthetic mica.

Under the Domestic Mica Purchase Program, the Government acquired 1,099 short tons of mica during July-December. Cumulative purchases under this program now total 24,032 short tons. It appears likely that the program limitation of 25,000 short tons of hand-cobbed mica or its equivalent will be acquired some time before the program termination date of June 30, 1962. Instructions on the closeout of this program have been issued to the GSA regions concerned, to assure that participants have full opportunity to deliver so long as quantities remain open and that the Government does not exceed the program quantity.

NICKEL

Approximately 3,745,000 pounds of nickel was sold during this report period, for \$2,700,000, leaving about 9,000 pounds to be sold out of the 19,000,000 pounds authorized for disposal from the DPA inventory to industry. Also during this period, about 5,635,000 pounds of nickel cathodes were disposed of from the DPA inventory through contract settlements amounting to about \$4,579,000. From the strategic stockpile, 627,000 pounds of arsenical nickel ore and 1,400 short tons of nickel speiss were sold, for about \$404,000.

PALM OIL

During the period July through December 1961, 942,768 pounds of palm oil was sold from the stockpile for \$67,000, leaving about 34,300,000 pounds for disposal, which will be offered at the rate of 4,000,000 to 6,000,000 pounds every six months.

PLATINUM AND NONFERROUS SCRAP

On July 19, 1961, notice appeared in the Federal Register of the proposed disposal of 4,471 troy ounces of platinum scrap and 711 short tons of nonferrous scrap consisting of 520 short tons of brass, 74 short tons of silicon bronze and copper, 11 short tons of beryllium/copper, and 106 short tons of zinc foil. Express approval of the Congress will be required for disposal of these materials.

PLATINUM GROUP METALS

During the reporting period 1,367 troy ounces of rhodium was sold, for \$176,000. The remaining 840 troy ounces of this material will be offered for sale within calendar year 1962.

QUARTZ CRYSTALS

During July-December, over 6,400,000 pieces of partially processed quartz crystals and about 46,000 pounds of crude quartz crystals were disposed of, for \$109,000, leaving about 78,000 pounds which will be offered at intervals during calendar year 1962.

QUINIDINE

Bid invitations were issued during the report period for the sale of 100,000 ounces of quinidine--the second sale since the disposal of 453,000 ounces was authorized in November 1960. The remainder will be offered in lots of not more than 100,000 ounces every six months.

QUININE

Bid invitations were issued, on an unrestricted basis, for one-half of the 9,500,000 ounces of quinine remaining for disposal from the stockpile. The remaining quantity, approximately 4,750,000 ounces, has been set aside for bidding by domestic small business firms only, with bid invitations to be issued shortly after sale of the first portion.

RARE-EARTH ELEMENTS

The highest quality cerium metal ever produced was made by the Bureau of Mines in the July-December period.

Research was continued on electrowinning and refinement by solid state electrolysis of rare-earth and yttrium metals, and semicontinuous production of pure cerium and other rare-earth metals was investigated.

RUBBER

During the six months' report period, 17,633 long tons of rubber was sold from the stockpile for approximately \$11,321,000.

SAPPHIRE

Sealed bids were invited for 1,800,000 carats of nonspecification-grade natural and synthetic sapphire eligible for disposal from the stockpile after expiration of the six months' notice published in the Federal Register of January 14, 1961.

SHELLAC

A notice was published in the Federal Register on October 28, 1961, of the proposed disposal of 10,655,418 pounds of shellac from the stockpile. Disposal will be undertaken after expiration of the six months' waiting period, April 27, 1962.

SILK WASTE

At three auction sales held between July and December, 825,575 pounds of silk waste was sold for \$354,000. These sales bring to 1,377,855 pounds the quantity sold since the inception of the disposal program for this material, leaving only 572,145 pounds of excess material.

TALC

A commitment was made for the sale of two short tons out of the 39 tons of block and lump steatite talc authorized for disposal from the strategic stockpile.

TIN

Of the 3,933 long tons remaining in the Federal Facilities Corporation inventory on June 30, 3,212 tons of tin was sold during July-December, for about \$8,708,000.

TOTAQUINE

GSA sold from the stockpile 164,800 ounces of totaquine, for about \$3,300, leaving 7,652,000 ounces yet to be disposed of.

ZINC

Research by the Bureau of Mines was initiated on determining the effect of rare-earth metal additions to zinc-base alloys.

ZIRCONIUM

Approximately 5,800 short tons of zircon concentrates were sold from the strategic stockpile, for about \$201,000. Steps were also under way in December toward execution of a contract for sale of an additional 2,580 tons of the concentrates.

Appendix A

TABLE 1 STATUS OF OBLIGATIONAL OPERATIONS

Under PL 117 and PL 520 For The National Stockpile

AS OF DECEMBER 31, 1961

| AUTHORITY | APPROPRIATED FUNDS \$/ | AUTHORIZATIONS FOR | | TOTAL OBLIGATIONAL AUTHORITY (CUMULATIVE) \$/ |
|--|------------------------|------------------------------|---|---|
| | | MAKING ADVANCE CONTRACTS \$/ | LIQUIDATING OUTSTANDING ADVANCE CONTRACTS \$/ | |
| Under PL 117 - 76th Congress | | | | |
| PL 361 - 76th Congress, August 9, 1939 | \$ 10,000,000 | \$ | | \$ 10,000,000 |
| PL 442 - 76th Congress, March 25, 1940 | 12,500,000 | | | 22,500,000 |
| PL 567 - 76th Congress, June 26, 1940 | 47,500,000 | | | 70,000,000 |
| Under PL 520 - 79th Congress | | | | |
| PL 663 - 79th Congress, August 8, 1946 | 100,000,000 | | | 100,000,000 |
| PL 271 - 80th Congress, July 30, 1947 | 100,000,000 | 75,000,000 | | 275,000,000 |
| PL 785 - 80th Congress, June 25, 1948 | 225,000,000 | 300,000,000 | | 800,000,000 |
| PL 785 - 80th Congress, June 25, 1948 | 75,000,000 | | 75,000,000 | 800,000,000 |
| PL 119 - 81st Congress, June 23, 1949 | 40,000,000 | 270,000,000 | | 1,110,000,000 |
| PL 150 - 81st Congress, June 30, 1949 | 275,000,000 | 250,000,000 | | 1,635,000,000 |
| PL 150 - 81st Congress, June 30, 1949 | 250,000,000 | | 250,000,000 | 1,635,000,000 |
| PL 634 - 81st Congress, October 29, 1949 | | | 100,000,000 | 1,735,000,000 |
| PL 759 - 81st Congress, September 6, 1950 | 365,000,000 | | | 1,660,000,000 |
| PL 759 - 81st Congress, September 6, 1950 | 240,000,000 | 125,000,000 | | 2,025,000,000 |
| PL 843 - 81st Congress, September 27, 1950 | 573,232,449 \$/ | | | 2,598,232,449 |
| PL 911 - 81st Congress, January 6, 1951 | 1,836,911,000 | | | 4,435,143,449 |
| PL 253 - 82nd Congress, November 1, 1951 | 590,216,500 | | | 5,025,359,949 |
| PL 253 - 82nd Congress, November 1, 1951 | 200,000,000 | | 200,000,000 | 5,025,359,949 |
| PL 455 - 82nd Congress, July 25, 1952 | 201,979,000 | | | 5,157,338,949 |
| PL 176 - 83rd Congress, July 31, 1953 | | | 30,000,000 | 5,127,338,949 |
| PL 428 - 83rd Congress, June 24, 1954 | | | 27,600,000 | 5,099,738,949 |
| PL 663 - 83rd Congress, August 26, 1954 | 379,932,000 \$/ | | | 5,479,690,949 |
| PL 112 - 84th Congress, June 30, 1955 | 321,721,000 \$/ | | | 5,801,411,949 |
| PL 112 - 84th Congress, June 30, 1955 | 27,600,000 | | 27,400,000 | 5,801,411,949 |
| PL 844 - 85th Congress, August 28, 1958 | 3,000,000 | | | 5,804,411,949 |
| Reauthorized by PL 255 - 86th Congress, September 14, 1959 | -58,370,933 \$/ | | | 5,746,041,016 |
| PL 856 - 86th Congress, July 12, 1960 | 22,237,000 \$/ | | | 5,768,278,016 |
| PL 141 - 87th Congress, August 17, 1961 | 16,682,510 \$/ | | | 5,784,960,526 |
| Total PL 520 | 5,786,860,526 \$/ | | | 5,784,960,526 |
| Total PL 117 and PL 520 | 85,484,960,526 \$/ | 1,070,000,000 | 81,070,000,000 | 86,354,960,526 |

5/ Congressional appropriations of funds for stockpiling purposes.
6/ Congressional appropriations of funds for stockpiling purposes in advance of appropriation of funds.
7/ Congressional appropriations of funds for stockpiling purposes in advance of appropriation of funds.
8/ Cumulative total of appropriated funds and advance contract authorizations.
9/ Includes \$8,845,792 received from sale of stockpile materials for wartime consumption. Receipts were returned to Treasury, February 1948.
10/ Includes \$25,000,000 previously authorized authority to make contracts.
11/ Includes \$25,000,000 transferred to Transportation and Public Utilities Service, GSA and \$199,345,000 transferred to General Fund Receipts on June 27, 1956 - PL 623 - 84th Congress.
12/ As of June 30, 1959 this amount included cash of \$57,350,792 and receivables of \$6,000,131.
13/ Includes \$40,000,000 transferred to Transportation and Public Utilities Service, GSA and \$199,345,000 transferred to General Fund Receipts on June 27, 1956 - PL 623 - 84th Congress.
14/ As of June 30, 1960 this amount included cash of \$57,350,792 and receivables of \$6,000,131.
15/ Includes \$40,000,000 transferred to Transportation and Public Utilities Service, GSA and \$199,345,000 transferred to General Fund Receipts on June 27, 1956 - PL 623 - 84th Congress.
16/ Includes \$40,000,000 transferred to Transportation and Public Utilities Service, GSA and \$199,345,000 transferred to General Fund Receipts on June 27, 1956 - PL 623 - 84th Congress.
17/ Includes receipts from rotational sales.

SOURCE: GENERAL SERVICES ADMINISTRATION

APPENDIX A—Con.

TABLE 2 TOTAL OBLIGATIONS AND EXPENDITURES OF STOCKPILING FUNDS

Under PL 117 and PL 520 for THE NATIONAL STOCKPILE

CUMULATIVE AND BY FISCAL PERIOD, THROUGH DECEMBER 31, 1961

| Fiscal Period | OBLIGATIONS INCURRED ^{A/} | | EXPENDITURES ^{B/} | |
|--------------------------------|------------------------------------|--------------------------------------|----------------------------|--------------------------------------|
| | Net Change By Fiscal Period | Cumulative As of End of Period | By Fiscal Period | Cumulative As of End of Period |
| Prior to Fiscal Year 1948 | \$ 123,871,685 | \$ 123,871,685 | \$ 66,330,731 | \$ 66,330,731 |
| Fiscal Year 1948 | 252,901,411 | 376,773,096 | 82,907,575 | 149,238,306 |
| Fiscal Year 1949 | 459,766,881 | 836,539,977 | 304,486,177 | 453,724,483 |
| Fiscal Year 1950 | 680,427,821 | 1,516,967,798 | 440,834,970 | 894,559,453 |
| Fiscal Year 1951 | 2,075,317,099 | 3,592,284,897 | 655,537,199 | 1,550,096,652 |
| Fiscal Year 1952 | 948,117,547 | 4,540,402,444 | 844,683,459 | 2,394,780,111 |
| Fiscal Year 1953 | 252,375,163 | 4,792,777,607 | 906,158,850 | 3,300,938,961 |
| Fiscal Year 1954 | 116,586,681 | 4,909,364,288 | 644,760,321 | 3,945,699,282 |
| Fiscal Year 1955 | 321,799,833 | 5,231,164,121 | 801,310,094 | 4,747,009,376 |
| Fiscal Year 1956 ^{C/} | 251,692,667 | 5,482,856,788 | 382,011,786 ^{C/} | 5,129,021,162 ^{C/} |
| Fiscal Year 1957 | 190,000,109 | 5,672,856,897 | 354,576,558 | 5,483,597,720 |
| Fiscal Year 1958 | 54,473,250 | 5,727,330,147 | 173,753,997 | 5,657,351,717 |
| Fiscal Year 1959 | 38,710,879 | 5,766,041,026 | 65,260,098 | 5,722,611,815 |
| Fiscal Year 1960 | 19,859,290 | 5,785,900,316 | 49,227,142 | 5,771,838,957 |
| Fiscal Year 1961 | 29,082,919 | 5,814,983,235 | 33,325,431 | 5,805,164,388 |
| Fiscal Year 1962 - First Half | 13,823,956 | 5,828,807,191 | 15,459,635 | 5,820,624,023 |

^{A/} Figures are the sum of obligations incurred under PL 520, 79th Congress and PL 117, 76th Congress.
Final obligations under PL 117, 76th Congress were incurred in Fiscal Year 1949.

^{B/} Figures are the sum of expenditures under PL 520, 79th Congress and PL 117, 76th Congress.
Final expenditures under PL 117, 76th Congress were made in Fiscal Year 1951.

^{C/} 1956 and subsequent fiscal periods and cumulative expenditures are reported on an accrual basis.

SOURCE: GENERAL SERVICES ADMINISTRATION

APPENDIX A—Con.

TABLE 3 EXPENDITURES OF STOCKPILE FUNDS, BY TYPE

(for the National Stockpile)

Cumulative and for Fiscal Year 1962

| Type of Expenditure | Cumulative Through June 30, 1961 ^{a/} | Six Months Ended December 31, 1961 | Cumulative Through December 31, 1961 ^{a/} |
|---|---|---------------------------------------|---|
| Expenditures | | | |
| Gross Total | \$6,346,814,092 | \$15,645,005 | \$6,362,459,097 |
| Less: Adjustment for Receipts from Rotation Sales and Reimbursements | 541,649,704 | 185,370 | 541,835,074 |
| Net Total | 5,805,164,388 | 15,459,635 | 5,820,624,023 |
| Material Acquisition Costs, Total | 5,430,433,250 | 1,588,697 | 5,432,021,947 |
| Stockpile Maintenance Costs, Total | 327,468,967 | 11,713,287 | 339,182,254 |
| Facility Construction Storage and Handling Costs | 43,772,457 | 0 | 43,772,457 |
| Net Rotation Costs | 197,251,208 | 6,227,525 | 203,478,733 |
| Administrative Costs | 86,445,302 | 5,485,762 | 91,931,064 |
| Operations, Machine Tool Program | 44,205,358 | 1,217,670 | 45,423,028 |
| | 3,056,813 | 939,981 | 3,996,794 |

^{a/} Cumulative figures are the total of expenditures under PL 117, 76th Congress and PL 520, 79th Congress. Expenditures under PL 117 totaled \$70,000,000 of which \$55,625,237 was for materials acquisition costs and \$14,374,763 was for other costs. Final expenditures under PL 117 were made in FY 1951.

SOURCE: GENERAL SERVICES ADMINISTRATION

Appendix B

CHANGES IN STOCKPILE PURCHASE SPECIFICATIONS JULY-DECEMBER 1961

| <i>Number</i> | <i>Item</i> | <i>Change</i> | <i>Effective Date</i> |
|---------------|---|---------------|---------------------------|
| P-105 | Columbium Carbide Powder..... | New | August 3 |
| P-16-R5 | Copper..... | Revised | November 17 |
| P-30a-R2 | Ferromanganese (Standard High-Carbon) | Revised | July 26 |
| P-107 | Sebacic Acid | New | July 17 |
| P-106 | Tantalum Carbide Powder..... | New | August 3 |

Appendix C

SUMMARY OF GOVERNMENT INVENTORIES OF STRATEGIC AND CRITICAL MATERIALS

As of December 31, 1961

(Dollar values based on December 31, 1961, market prices)

Total of Maximum Objectives
for Strategic Stockpile
\$4,368,159,700

| | |
|--|------------------------|
| | <i>Market value</i> |
| I. <u>Total Inventories</u> | <u>\$7,723,229,700</u> |
| Strategic Stockpile | 5,729,553,200 |
| Defense Production Act..... | 920,768,200 |
| Commodity Credit Corp. | 107,759,100 |
| Supplemental Stockpile | 961,920,900 |
| Federal Facilities Corp. | 3,228,300 |
| II. <u>Inventories Within Strategic Stockpile Objectives</u> | <u>4,332,363,700</u> |
| Strategic Stockpile..... | 3,964,844,300 |
| Defense Production Act | 156,221,800 |
| Commodity Credit Corp. | 59,386,400 |
| Supplemental Stockpile | 151,911,200 |
| III. <u>Inventories Excess to Strategic Stockpile Needs</u> | <u>3,390,866,000</u> |
| <u>Specification Grades of Materials with Objectives</u> | <u>3,093,284,500</u> |
| Strategic Stockpile..... | 1,611,025,400 |
| Defense Production Act | 637,577,200 |
| Commodity Credit Corp. | 47,211,800 |
| Supplemental Stockpile | 794,241,800 |
| Federal Facilities Corp. | 3,228,300 |
| <u>Nonspecification Grades of Materials With Objectives</u> | <u>154,456,000</u> |
| Strategic Stockpile..... | 55,857,000 |
| Defense Production Act | 95,754,700 |
| Commodity Credit Corp. | 270,400 |
| Supplemental Stockpile | 2,573,900 |
| <u>Materials Without Objectives</u> | <u>143,125,500</u> |
| Strategic Stockpile..... | 97,826,500 |
| Defense Production Act..... | 31,214,500 |
| Commodity Credit Corp. | 890,500 |
| Supplemental Stockpile | 13,194,000 |

Appendix D

REPORTS ISSUED BY THE DEPARTMENT OF THE INTERIOR JULY-DECEMBER 1961

BUREAU OF MINES

Reports of Investigations

- 5789 High Temperature Heat Contents and Entropies of Cerium Dioxide and Columbium Dioxide.
- 5810 Low Temperature Heat Capacities and Entropies at 298.15° K. of Diaspore, Kaolinite, Dickite, and Halloysite. (Aluminum)
- 5820 Aluminum Fluoride from Wet Hydrogen Fluoride Offgas.
- 5825 Heats and Free Energies of Formation of Gibbsite, Kaolinite, Halloysite, and Dickite. (Aluminum)
- 5826 Copper Recovery from Segregation-Flotation Concentrates by Ammonical-Ammonium Carbonate Leaching.
- 5827 Recovery of Zinc from Dross and Tin from Hardhead by Amalgam Electrolysis.
- 5828 Preparation of Tungsten and its Alloys by Bomb Reduction.
- 5837 Electron Diffraction Study of Garnierite. (Nickel)
- 5839 Bacteria in Mining and Metallurgy: Leaching Selected Ores and Minerals; Experiments With *Thiobacillus Thiooxidans*. (Copper)
- 5840 Preparation of High-Purity Nickel.
- 5847 Thermal Expansion and Phase Inversion of Rare-Earth Oxides.
- 5848 Dissolution of Zinc from Sphalerite at Elevated Temperatures and Pressures.
- 5850 Zirconium-Gadolinium Equilibrium Diagram.
- 5853 Fatigue Properties of Manganese-Copper Damping Alloys.
- 5854 Experimental Tertiary Amine Flotation of Zinc Silicate (Hemimorphite) From Missouri.
- 5858 Heats and Free Energies of Formation of Oxides of Vanadium.
- 5861 Preparation of Tungsten by Reduction of Tungsten Hexachloride.
- 5862 Separation of Tantalum from Columbium by the Hydrofluoric Acid-Sulfuric Acid-Methyl Isobutyl Ketone System.
- 5865 Effects of Aluminum, Nitrogen, Manganese, and Copper Impurities on Hot Water and Steam Corrosion Rates of Zircaloy-3.
- 5868 Electrowinning Cerium-Group and Yttrium-Group Metals. (Rare earths)
- 5869 Froth Flotation and Chemical Processing of Colorado Ferberite Ores. (Tungsten)
- 5872 Effects of Interstitial Impurity Levels on Mechanical Properties of Columbium at Low Temperatures.
- 5875 Flotation of Bertrandite and Phenacite From Mount Wheeler, Nev., Beryllium Ore.
- 5879 Effect of Temperature in Ion-Exchange Separation of Rare-Earth Elements and Recovery of EDTA from Effluent Solutions.
- 5880 Preparation and Metallic Reduction of Rare-Earth Halides and Oxides.
- 5887 Evaluating Cuyuna Manganese Resources by Sulfatizing.
- 5890 Effects of Ultrasonics on Electrolytic Deposition of Copper and Zinc From Sulfate and Cyanide Electrolytes.
- 5891 Recovery of Germanium, Cadmium, and Lead as Sulfides From Zinc Concentrates by Batch and Fluid-Solids Roasting.
- 5892 Thermochemistry of Erbium. (Rare earth)
- 5894 Chloridizing Sulfides of Lead, Zinc, and Copper.
- 5895 Producing and Ladle-Treating Medium-Carbon Alloy Steels With Rare-Earth Metal and Oxides.
- 5897 Ferrochromium From Western Metallurgical-Grade Chromite.

APPENDIX D—Con.

BUREAU OF MINES—Con.

Information Circulars

- 7986 Mining Methods and Costs, Regal Asbestos Mine, Jaquays Mining Corp., Gila County, Ariz.
8012 Mining, Milling, and Water-Control Methods, Rosiclaire Fluorspar Works, Aluminum Co. of America.
8013 Reconnaissance of Selected Pegmatite Districts in North-Central New Mexico. (Beryllium)
8016 Mining Methods and Practices, Hurricane Creek Bauxite Mine, Reynolds Mining Corp., Saline County, Ark.
8028 Mining and Milling Methods and Costs, Madison Mine, National Lead Co., St. Louis Smelting and Refining Division, Madison County, Mo. (Copper, nickel, cobalt)
8030 Manganese Deposits of New Mexico.
8040 Kyanite, A Materials Survey.

Reports Placed on Open File for Public Inspection

Geophysical Investigation Relating to Tin Deposits in Coosa County, Ala.

U. S. GEOLOGICAL SURVEY

Professional Papers

- 424-A,
B, C, D Geological Survey Research, 1961. (Beryllium, copper, nickel, and other strategic materials.)

Bulletins

- 1058-H Geology of part of the Craig C-2 quadrangle, and adjoining areas, Prince of Wales Island, southeastern Alaska. (Iron, copper)
1082-H Manganese deposits in the Drum Mountains, Juab and Millard Counties, Utah.
1084-K Beryllium content of American coals.
1090 Iron and copper deposits of Kasaan Peninsula, Prince of Wales Island, southeastern Alaska.
1104-B Geology of the Bernal-Jalpan area, Estado de Queretaro, Mexico. (Lead, zinc, antimony, gold, silver)
1107-C The uranium-vanadium ore deposit at the Monument No. 1--Mitten No. 2 mine, Monument Valley, Navajo County, Arizona.
1108-A Geology of the Mount McKinley quadrangle, Alaska. (Gold, antimony, lead-zinc, copper)
1114 Minerals of Colorado--A 100-year record.

Maps

- GQ-141 Geology of the Boulter Peak quadrangle, Utah. (Silver, lead, zinc, copper)
GQ-155 Geology of the Monroe quadrangle, Utah. (Uranium, clay, iron, manganese)
I-339 Geologic map of the Goodnews quadrangle, Alaska. (Mercury, platinum, zinc, gold)

Maps and Texts Placed on Open File for Public Inspection

Antimony in the United States.
Asbestos in the United States.
Bismuth in the United States.
Chromite in the United States.
Copper in the United States.
Lead in the United States.
Manganese in the United States.
Mercury in the United States.
Pyrophyllite and Kyanite and related minerals in the United States.
Talc and soapstone in the United States.
Thorium and rare earths in the United States.
Tungsten in the United States.
Vanadium in the United States.
Zinc in the United States.

Appendix E

*Copy of notice which appeared in the
Federal Register of April 11, 1962*

OFFICE OF EMERGENCY PLANNING

Declassification of Certain Stockpile Data

Pursuant to Executive Order 10501, as amended, and after consultation with the heads of the agencies concerned, I have found that materials objectives determined and materials inventories acquired under the Acts of June 7, 1939, and July 23, 1946, are not official information affecting the national defense within the meaning of that Order, and the amounts thereof are hereby determined to be unclassified.

Dated: April 6, 1962.

Edward A. McDermott
Acting Director.

[F. R. Doc. 62-3503; Filed April 10, 1962; 8:50 a.m.]

